IN THE SPECIFICATION

Please amend the specification as follows:

On page 17, replace the abstract with the following:

According to one aspect of the invention, a structure and method for providing improved thermal conductivity of a thermal interface material (TIM) made of phase changed polymer matrix and a fusible filler material is disclosed. The TIM may also have a non-fusible filler material and a percentage of a non-phase change polymer added to the phase change polymer matrix. The TIM, used to mate and conduct heat between two or more components, can be highly filled systems in a polymeric matrix where the fillers are thermally more conductive than the polymer matrix.

On page 9, replace paragraph **[0028]** with the following:

[0028] A partial list of fusible filler material 403 that can be added may be metals and metal alloys such as In, InBi, InSn, BiSn, PbSn, SnAg, InPbAg, InAg, InSnBi, ~~InGa~~ InGa, SnBiZn, SnInAg, SnAgCu, SnAgBi and InPb. The fusible filler materials can be in the form of a powder. The fusible filler materials can be in the form of a solder having a low melting temperature and where there can be additives such as resins to aid in the flow and wetting of the mating surfaces and to the non-fusible particles. A partial list of non-fusible particle filler material 403 that can be added to

the mixed-filler phase change polymer matrix are aluminum oxides, zinc oxide, aluminum, boron nitride, silver, graphite, carbon fibers, diamond, and metal coated fillers such as, for example, metal coated carbon fiber or metal coated diamond. The total weight of filler to total weight of mixed-filler phase change polymer matrix TIM can be in the range of approximately 10 - 95% filler. The total weight of fusible filler can be in the range of approximately 60 - 90% by weight of the total weight of the thermal interface material. The total weight of non-fusible filler can be in the range of approximately 5 - 50% by weight of the total weight of the thermal interface material. The fusible filler material can have a melting temperature approximately in the range of ~~100 - 250ºC~~ 100-250° C. The material choice for non-fusible material may exclude lead, cadmium, mercury, antimony, and arsenic due to contamination and safety hazard concerns.

On page 10, replace paragraph **[0030]** with the following:

[0030] **FIG. 5** is an illustration of one embodiment of a mesh added to the TIM. The TIM 504 can use a phase change material 506 that is highly cross-linked, partially cross-linked, not cross-linked, or blends thereof. During a reflow assembly operation, however, the less cross-linked polymers with fusible filler 508 may compress with heat and assembly forces until there is contact between the two mating components (none shown). A hard stop may be placed within the TIM 504 to maintain a minimum bond gap between the components. The hard stop may be in the form of a mesh 502 made of non-fusible materials and that are highly

thermally conductive. Mesh material that can be used includes aluminum, alumina, silver, aluminum nitride, silica coated aluminum nitride, boron nitride, carbon fiber, diamond and other metal coated inorganic compounds. The mesh material 502 can be in large sheet form when added to the TIM 504, also in sheet form. As a result, the mesh 502 can be approximately a continuous piece when the TIM 504 is cut to shape for use. Alternatively, the mesh ~~material502~~ material 502 may be smaller pieces of mesh added to the TIM 504 where in one embodiment, the mesh pieces can have an approximate shape that is 0.1" square. As shown in **FIG. 5**, the mesh 502 should lie flat within the TIM 504, i.e. flat with the length (L) and width (W) of the TIM 504 so as to limit a bond gap between components (not shown) to the thickness of the mesh 502.

On page 11, replace paragraph **[0034]** with the following:

[0034] Such TIM material can be applied via various assembly methods. With such phase change TIM material pre applied (screen printing, perform, etc.) to the thermal conductive member (such as the heat spreader or heat sink), package assembly builds showed an average Rjc of 0.17 - 0.18 °C ~~cm2/W~~ cm²/W. With the phase change TIM material dispensed, package assembly builds showed an average Rjc of 0.18-0.19 °C ~~cm2/W~~ cm²/W. The phase change TIM material placed between the die surface and only a copper plate as the heat sink, showed package assembly builds with an average Rjc of 0.22-0.23 °C ~~cm2/W~~ cm²/W.